

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently amended) ~~Multi-color~~ A multi-color rotary printing machine, comprising:

one printing plate support each assigned to colors to be transferred onto a printing plate, said printing plate support supporting the printing plate and being attached to a mandrel or a cylinder of the rotary printing machine in order to transfer a print image onto a print substrate; and

register devices that determine ~~positions~~ a peripheral position and an axial position of the printing plates with respect to one another, the register devices including sensors that determine the peripheral and the axial positions of the printing plate support in the printing machine and the register devices providing information regarding the peripheral and the axial positions of the printing plate support before, at the start of, or during a print process in conjunction with the sensors, based on which control signals are provided,

the register devices including a control device with which control signals are generated based on the peripheral and the axial positions of the printing plate support determined by

the sensors and with which drives of the mandrels or the print cylinders are controllable using said control signals such that a phase at least one of the peripheral position and the axial position of the mandrels or the print cylinders in relation to one another is changed and a register accuracy of the print increases,

each printing plate support including at least one information carrier that includes a sequence of magnetizable individual elements from which information is removed using the sensor, the information that is read out being automatically suitable for determining the relative position peripheral and axial positions of the printing plate support on the mandrel or on the print cylinder of the rotary printing machine, and the information carrier being arranged outside the mandrel and between the print image and an edge of the printing plate support that is turned toward a front end of the mandrel or of the print cylinder.

2. (Previously presented) The multi-color rotary printing machine according to claim 1, wherein the information carrier has an oblong shape and a long side that is essentially aligned in a peripheral direction of the printing plate support.

3. (Previously presented) The multi-color rotary printing machine according to claim 1, wherein the information carrier

surrounds a periphery of the mandrel or of the cylinder of the printing machine.

4. (Previously presented) The multi-color rotary printing machine according to claim 1, wherein the information stored on the information carrier is magnetically readable.

5. (Previously presented) The multi-color rotary printing machine according to claim 1, wherein the information carrier includes a magnetic tape.

6. (Currently amended) Process A process for setting up a multi-color rotary printing machine before and at the start of a print process, comprising:

assigning one printing plate support each to colors to be transferred onto a print substrate, said printing plate support supporting a printing plate;

attaching the printing plate supports to mandrels or cylinders of the rotary printing machine in order to transfer a print image onto the print substrate;

determining with register devices a peripheral position and an axial position of the printing plates with respect to one another,

the register devices including sensors that determine the peripheral and the axial positions of the printing plate support in the printing machine and

the register devices providing information based on the peripheral and the axial positions of the printing plate supports determined by the sensors,

with control signals being derived based on the information and

the register devices including a control device that generates control signals based on the peripheral and the axial positions of the printing plate support determined by the sensors;

using the control signals to control drives of the mandrels or of the print cylinders such that ~~a phase at least one of the peripheral position and the axial position~~ of the mandrels or of the print cylinders in relation to one another is changed

so as to increase a register accuracy of the print,

the printing plate supports each having at least one information carrier that includes a sequence of magnetizable individual elements from which information is removed using the sensor; and

reading the information automatically and using the information to determine a relative peripheral and a relative axial position of the printing plate support on the mandrel or on the print cylinder of the rotary printing machine,

with printing plates being used such that the information carrier is arranged outside the printing plate and between the print image and an edge of the printing plate support that is turned toward a front end of the mandrel or of the print cylinder.

7. (Previously presented) The process according to claim 6, wherein during the change of the relative phase position of the mandrels or the print cylinders, the printing plate supports rest in relation to the mandrels or print cylinders assigned to the printing plate supports.

8. (Currently amended) The process according to claim 7, wherein the multi-color rotary printing machine includes the printing plate support each assigned to the colors to be transferred onto the printing plate, said printing plate support supporting the printing plate and

 said printing plate support being attached to the mandrel or the cylinder of the rotary printing machine in order to transfer the print image onto the print substrate,

 the rotary printing machine having the register devices that determine the peripheral and the axial positions of the printing plates with respect to one another and

the register devices having the sensors that determine the peripheral and the axial positions of the printing plate support in the printing machine and

the register devices providing the information regarding the peripheral and the axial positions of the printing plate support before, at the start of, or during the print process in conjunction with the sensors,

based on which the control signals are provided,

the register devices having the control device that generates the control signals based on the peripheral and the axial positions of the printing plate support determined by the sensors and that controls the drives of the mandrels or of the print cylinders using said control signals such that ~~the phase at least one of the peripheral position and the axial position of~~ the mandrels or of the print cylinders in relation to one another is changed

and the register accuracy of the print increases,

with each of the printing plate supports containing the at least one information carrier from which the information is removed using the sensor, and with the information that is read out automatically being suitable for determining the relative peripheral and axial position of the printing plate support on the mandrel or on the print cylinder of the rotary printing machine, and

with the information carrier being arranged outside the printing mandrel and between the print image and the edge of the printing plate support that is turned toward the front end of the mandrel or of the print cylinder.

9. (Previously presented) The multi-color rotary printing machine according to claim 2, wherein the information carrier surrounds a periphery of the mandrel or of the cylinder of the printing machine.

10. (Previously presented) The multi-color rotary printing machine according to claim 2, wherein the information stored on the information carrier is magnetically readable.

11. (Previously presented) The multi-color rotary printing machine according to claim 3, wherein the information stored on the information carrier is magnetically readable.

12. (Previously presented) The multi-color rotary printing machine according to claim 2, wherein the information carrier includes a magnetic tape.

13. (Previously presented) The multi-color rotary printing machine according to claim 3, wherein the information carrier includes a magnetic tape.

14. (Previously presented) The multi-color rotary printing machine according to claim 4, wherein the information carrier includes a magnetic tape.

15. (Previously presented) The multi-color rotary printing machine according to claim 2, wherein the information carrier shape is rectangular.

16. (Currently amended) A multi-color rotary printing machine, comprising:

a printing plate support that supports a printing plate and that is assigned to colors to be transferred onto the printing plate, the printing plate support being attached to a mandrel or a cylinder of the machine in order to transfer a print image onto a print substrate during a printing process; and

register devices that determine positions a peripheral position and an axial position of the printing plates with respect to one another, the register devices including sensors that determine the peripheral and the axial positions of the printing plate support in the machine and the register devices providing information regarding the peripheral and the axial positions of the printing plate support before, at the start of, or during the printing process in conjunction with the sensors based on which control signals are provided, the register devices

including a control device that generates control signals based on the peripheral and the axial positions of the printing plate support determined by the sensors and with which drives of the mandrels or the print cylinders are controllable using said control signals such that ~~a phase at least one of the peripheral position and the axial position~~ of the mandrels or the print cylinders in relation to one another is changed and a register accuracy of the print increases,

each printing plate support including at least one information carrier from which information is removed using the sensor, the information carrier having a sequence of magnetizable individual elements, with the information that is removed being magnetically readable and being automatically adapted for determining ~~the a relative peripheral position and a relative axial~~ position of the printing plate support on the mandrel or on the print cylinder, and

the information carrier being arranged outside the printing mandrel and between the print image and an edge of the printing plate support that is turned toward a front end of the mandrel or of the print cylinder.

17. (Previously presented) The multi-color rotary printing machine according to claim 16, wherein the information carrier has a rectangular shape with a long side that is substantially aligned in a peripheral direction of the printing plate support.